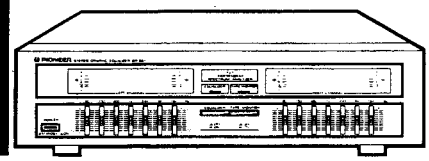
PIONEER®
The future of sound and vision.

Service Manual

Original



ORDER NO.
ARP1417

GRAPHIC EQUALIZER

GR-551

MODEL GR-551 COMES IN FIVE VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Power requirement	Export destination
KUC	AC120V only	U.S.A. and Canada
HB	AC220V, 240V (Switchable)*	United Kingdom
HEZ	AC220V, 240V (Switchable)*	West Germany
SD	AC110V, 120V—127V, 220V, 240V (Switchable)	Kingdom of SaudiArabia and general market
SD/G	AC110V, 120V—127V, 220V, 240V (Switchable)	U.S. Military

*Change the connection of the power transformer lead wire.

- **This service manual is applicable to the GR-551/KUC, HEZ, HB, SD and SD/G types.**
- **As to the HEZ, HB, SD and SD/G types, please refer to pages 18 and 19.**

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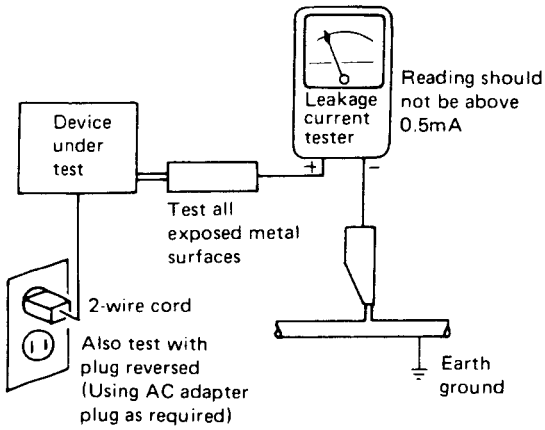
1. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

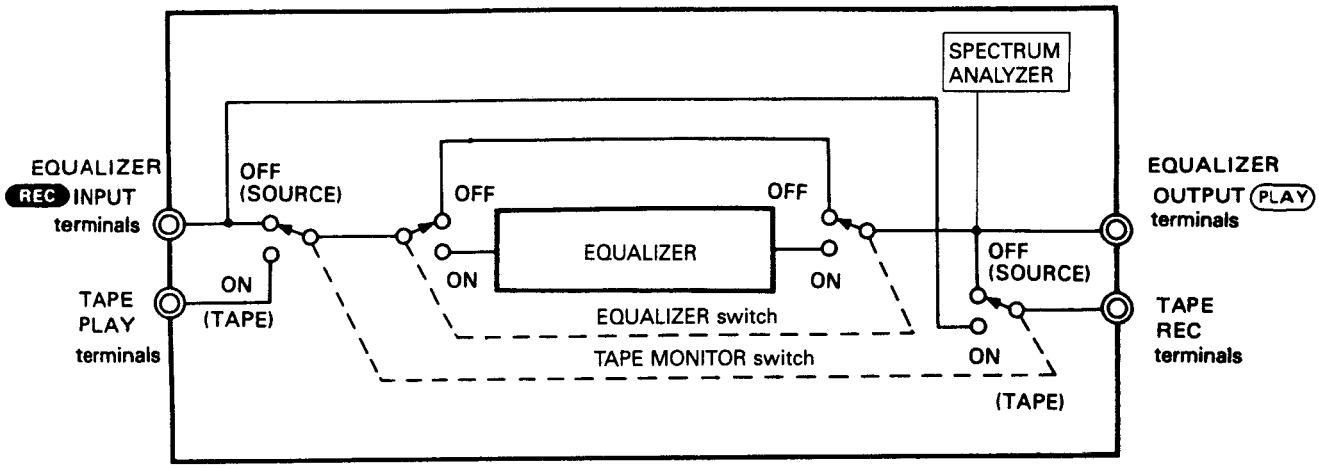
Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, the PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. FUNCTIONING OF SWITCHES



Above diagram shows L channel only.

3. SPECIFICATIONS

Input terminals (reference input level/input impedance)
INPUT, TAPE PLAY ..... 150 mV/50 kΩ
Gain ..... 0 dB
Output terminals
(reference output level/output impedance)
OUTPUT ..... 150 mV/ 2.2 kΩ
REC OUT ..... 150 mV
Harmonic distortion (20 Hz ~ 20 kHz, output 1V)
..... 0.03%
Frequency response
INPUT, TAPE PLAY .....10 Hz ~ 50 kHz $^{+0}_{-3}$ dB
Equalizer bands
Center frequencies
..... 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Variable range ..... ±10 dB
SN ratio (IHF, A network, short circuit, I V)
INPUT, TAPE PLAY ..... 104 dB
SN ratio (DIN)
INPUT, TAPE PLAY ..... 85 dB
Spectrum analyzer
Center Frequencies
.....60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Other.....3 dB Step, 8 points

Miscellaneous

Power requirements
U.S. and Canadian models ..... AC 120 V, 60 Hz
U.K. model .....a.c 240 volts ~ 50/60 Hz
Other destination models ..... AC 110 V/120–127 V/
220 V/240 V (switchable), 50/60 Hz
Power consumption .....15 W
External dimensions (W × H × D)
..... 420 x 105 x 334 mm
16-9/16 x 4-1/8 x 13-1/8 mm
Weight..... 4.2 kg (9 lb4 oz)

Accessories

Pin-plug cords 2
Operating Instructions 1

Specifications and design subject to possible change without notice due to improvements.

4. PANEL FACILITIES

• FRONT

EQUALIZER Switch

When this switch is pressed, the EQUALIZER indicator lights and its functions become operative. When pressed once again, this indicator goes out and its functions become inoperative. Use this switch in the following manner:

ON: When using the equalizer to add sound compensation to program sources (FM broadcasts, records, tape playback, etc.).

OFF: When not using the equalizer, normal playing back or recording program sources will be performed without compensation.

NOTE:
Even when performing playback without using the functions of this component, if the power switch is OFF, and the equalizer switch is OFF, there will still be sound. The unit's tape monitor switch can also be switched ON or OFF. (TAPE MONITOR indicator will not light.)

TAPE MONITOR Switch

When this switch is pressed, the TAPE MONITOR indicator lights. When pressed again, the indicator goes out. Use this switch in the following manner:

ON: When using the tape deck connected to the equalizer's tape terminals to play back tapes with or without adding sound compensation.

OFF: When using the components (tuner, turntable, tape deck) connected to the stereo amplifier to play back music with or without adding sound compensations.

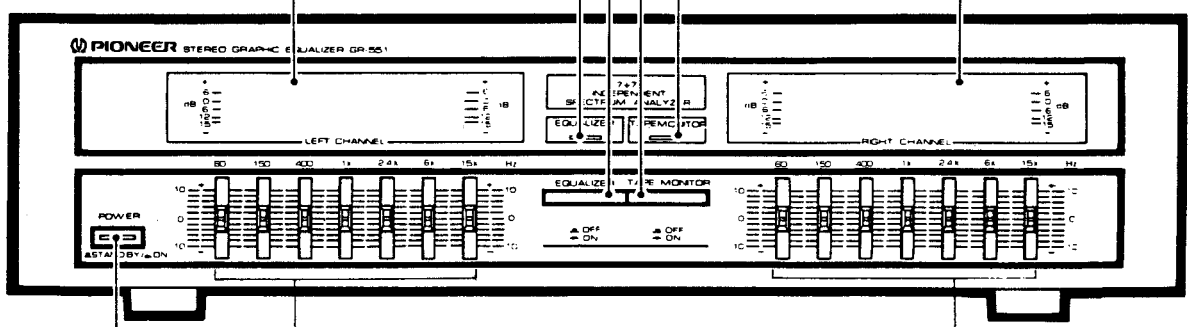
NOTE:
Pressing the TAPE MONITOR switch ON/OFF during recording will cause breaks in the recording. To avoid this, do not press the tape monitor switch while recording.

EQUALIZER indicator

TAPE MONITOR indicator

LEFT CHANNEL spectrum analyzer.
Displays the amplification of the output signal compensated with this instrument.

RIGHT CHANNEL spectrum analyzer.
Displays the amplification of the output signal compensated with this instrument.



POWER Switch (POWER STANDBY/ON)

When this switch is set to the ON position, power is supplied to the unit's main circuits (The spectrum analyzer frequency display lights.) The unit's power switch is geared to selecting the transformer's secondary and so even at the STANDBY position, the unit's circuitry will work as long as the power cord is connected to the AC power outlet.
Disconnect the power cord from the AC power outlet when you do not plan to use the unit for a long period of time.

EQUALIZER CONTROLS

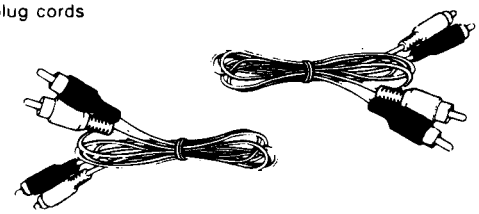
These are equalizer controls for the bands 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz and 15 kHz.
When the equalizer switch has been set to ON, these controls may be adjusted. When a control is raised upwards from the "0" position, the frequency band corresponding to that control will be emphasized; when the control is lowered, the frequency band will be attenuated. These controls can be used independently for right and left channels.

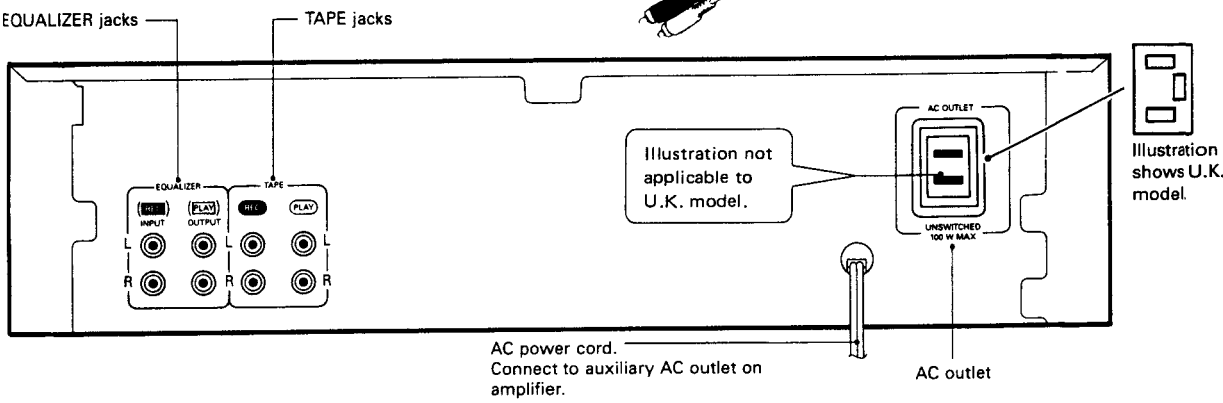
NOTE:
In order to protect your speakers from damage resulting from excessively large inputs, whenever augmenting high-frequency sounds over a wide range, be sure not to raise your amplifier's sound volume too high.

• REAR

Two pin-plug cords are included as accessories. These are to be used to connect the graphic equalizer to your stereo amplifier. The white plug is for the left channel, and the red plug is for the right channel.

Pin-plug cords





EQUALIZER jacks

Connect to stereo amplifier.

TAPE jacks

Connect to tape deck.

AC OUTLET (UNSWITCHED 100 W MAX)

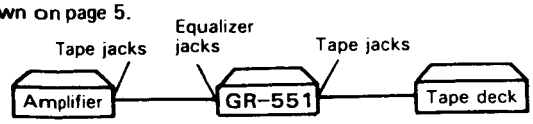
Power flows continually to this outlet, regardless of whether the equalizer is switched ON or STANDBY. Electrical power consumprion of the connected equipment should not exceed 100 W. The equalizer should be disconnected by removing the mains plug from the AC wall socket when not in regular use, e.g. when on vacation.

NOTE:
Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET in order to avoid overheating or fire risk.
This can cause the equalizer to malfunction.

STEREO AMPLIFIER TAPE JACKS

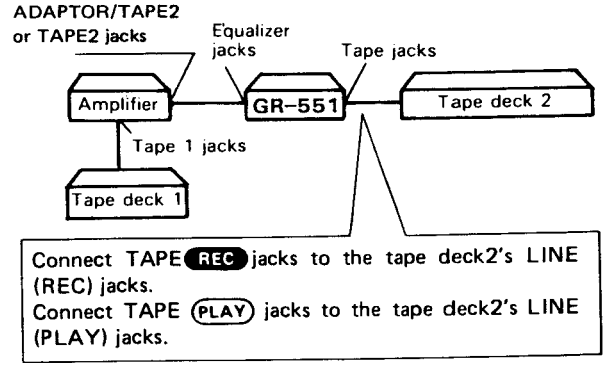
When stereo amplifier has one set of tape jacks:

Connect the unit's (REC) INPUT jacks to the stereo amplifier's TAPE REC jacks, and connect (PLAY) OUTPUT jacks to the stereo amplifier's TAPE PLAY jacks, as shown on page 5.



When stereo amplifier has two sets of tape jacks:

Connect the unit's (REC) INPUT jacks to the stereo amplifier's ADAPTOR/TAPE2 or TAPE2 [REC] jacks, and connect (PLAY) OUTPUT jacks to the stereo amplifir's ADAPTOR/TAPE2 or TAPE2 [PLAY] jacks, as shown on page 4.


ADAPTOR/TAPE2 or TAPE2 jacks
Equalizer jacks
Tape jacks
Amplifier
GR-551
Tape deck 2
Tape 1 jacks
Tape deck 1
Connect TAPE REC jacks to the tape deck2's LINE (REC) jacks.
Connect TAPE PLAY jacks to the tape deck2's LINE (PLAY) jacks.

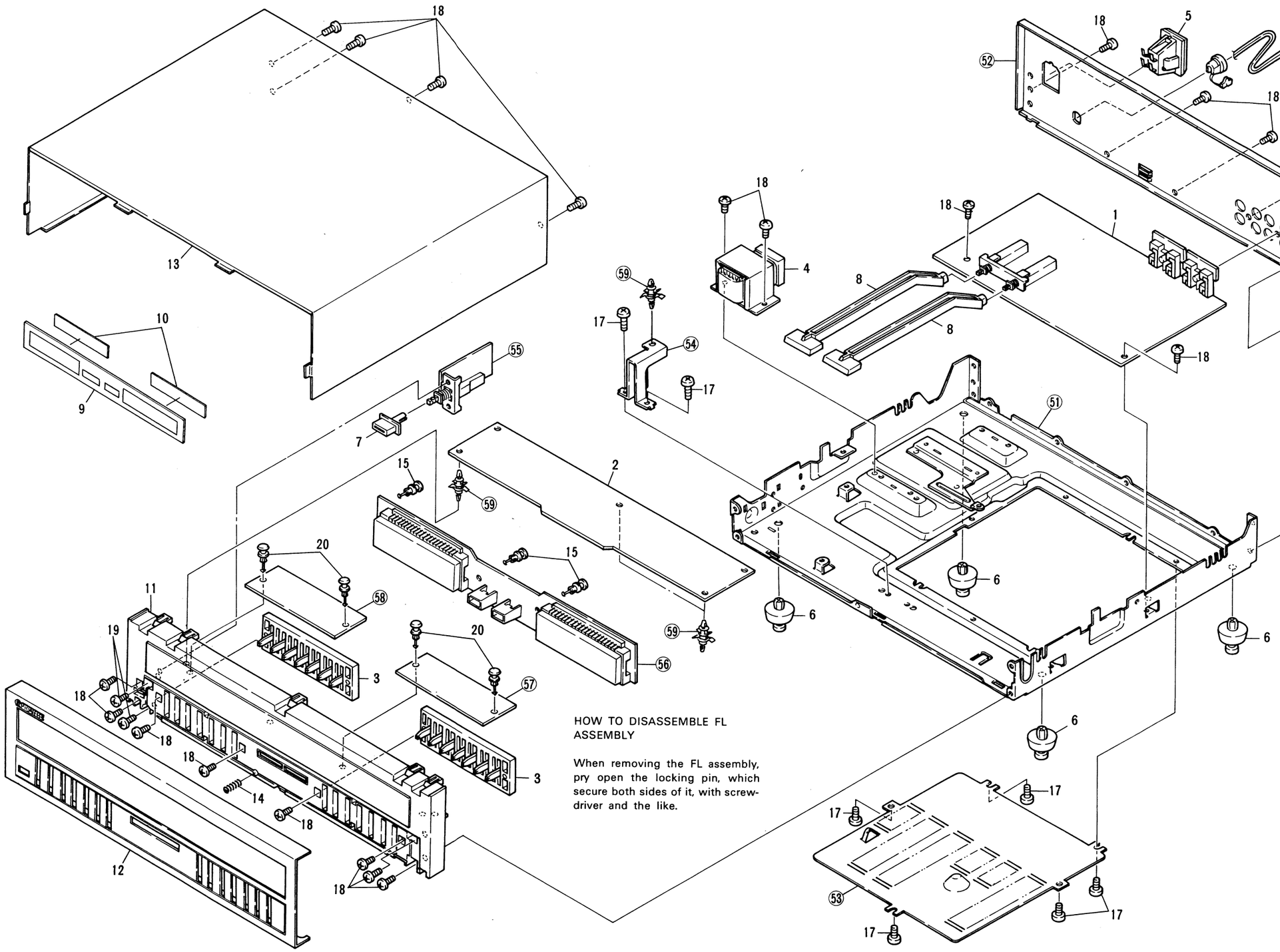
5. EXPLODED VIEWS AND PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List

Mark	No.	Part No.	Description
	1	AWZ1087	AF assembly
	2	AWZ1091	BAND PASS assembly
	3	ACU1017	Slide variable resistor (GRAPHIC EQUALIZER VR1, VR2)
⚠ ★	4	ATT1039	Power transformer (AC120V, T1)
⚠	5	AKP-507	AC socket (AC OUTLET)
	6	AEC-784	Leg assembly
	7	AAD1170	Knob (POWER)
	8	AAD1072	Push rod
	9	AAK1280	Sheet panel
	10	AAK1281	FL filter
	11	AMB1149	Panel base
	12	ANB1115	Front panel assembly
	13	ANE1078	Bonnet
	14	ABH1021	Coil spring
	15	AMR1066	Plastic rivet
⚠	16	ADG-088	AC power cord
	17	BBZ30P060FZK	Screw
	18	BBZ30P080FZK	Screw
	19	VMZ30P060FMC	Screw
	20	AEC-558	Nylon rivet
	51		Chassis
	52		Rear panel
	53		Bottom plate
	54		P.C.B. holder
	55		Power SW assembly
	56		FL assembly
	57		Shield plate assembly
	58		Shield plate assembly
	59		P.C.B. Support


18
13
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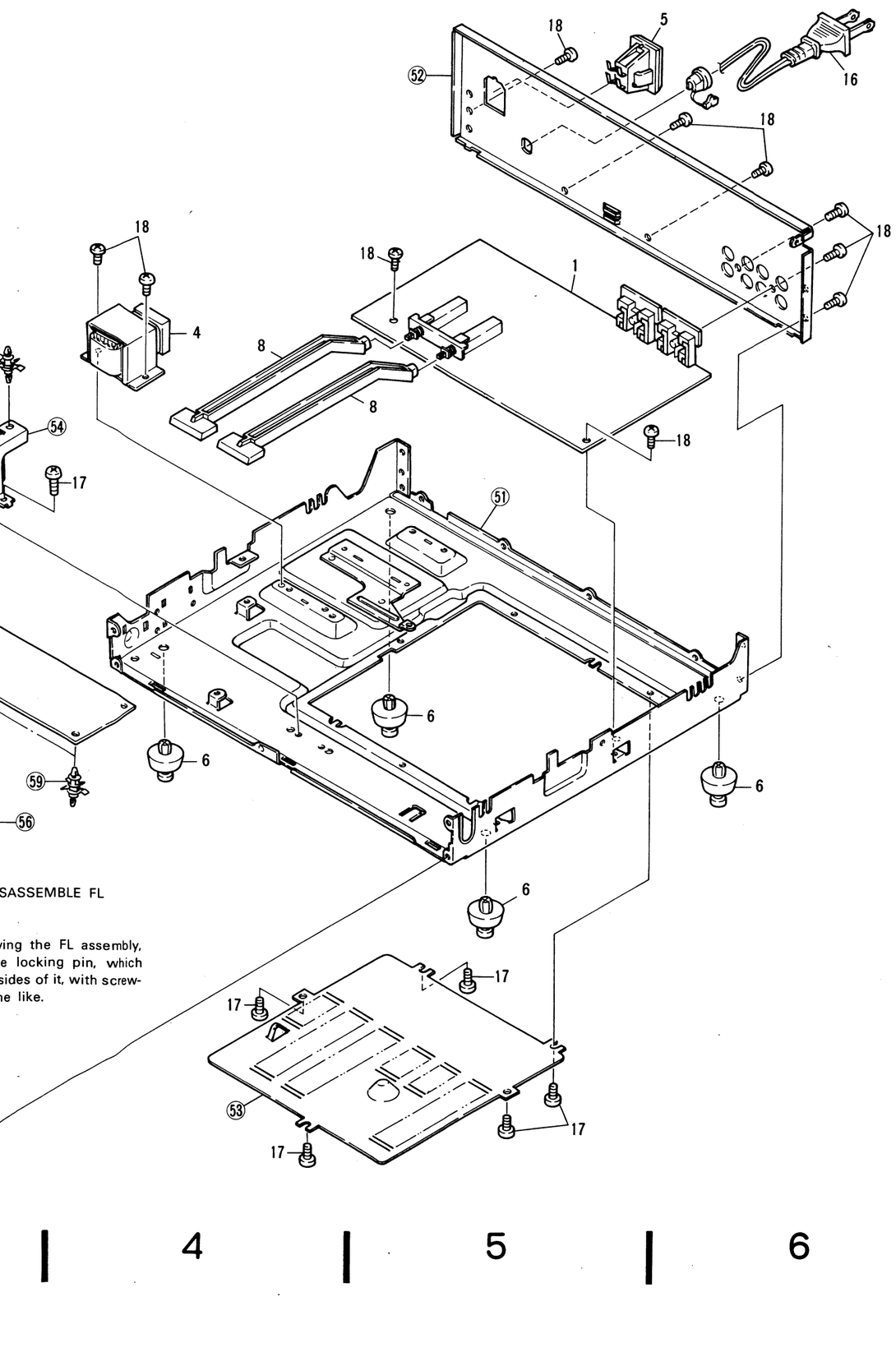
56
HOW TO DISASSEMBLE FL ASSEMBLY
When removing the FL assembly, pry open the locking pin, which secure both sides of it, with screw-driver and the like.
5
16
52
4
8
1
54
17
51
6
53



SASSEMBLE FL

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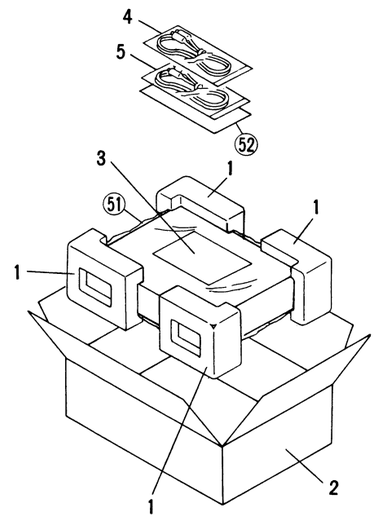
6. PACKING

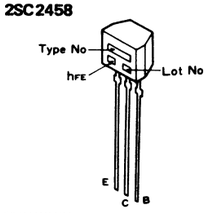


Parts List

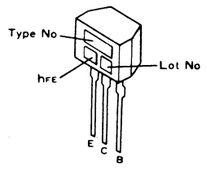
Mark	No.	Part No.	Description
	1	AHA1024	Front Rear pad
	2	AHD1234	Packing case
	3	ARB1079	Operating instructions (English)
	4	ADE-072	Connection cord
	5	ADE-073	Connection cord
	51		Packing sheet
	52		Warranty card

External Appearance of Transistors and ICs

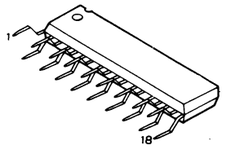
2SC2458



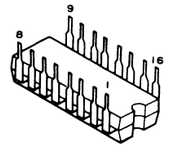
2SC1740S



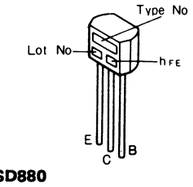
BA3812L



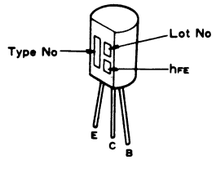
TC4022BP



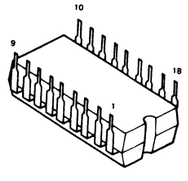
2SC2603



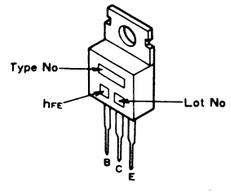
2SC1845



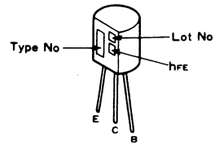
LB1290



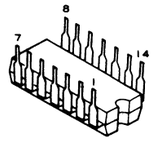
2SD880



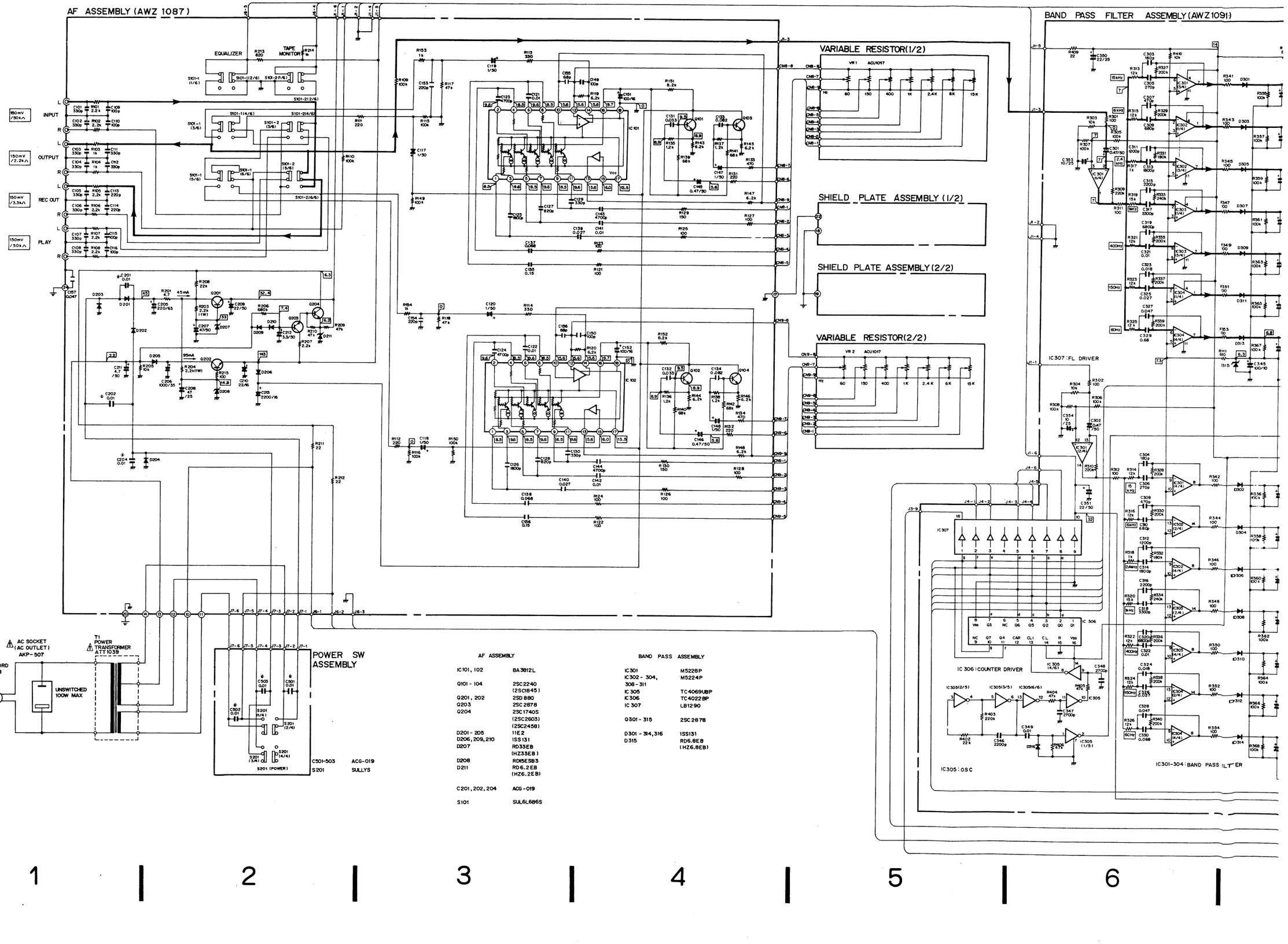
2SC2240
2SC2878



M5224P
M5228P
TC4069UBP



7. SCHEMATIC DIAGRAM

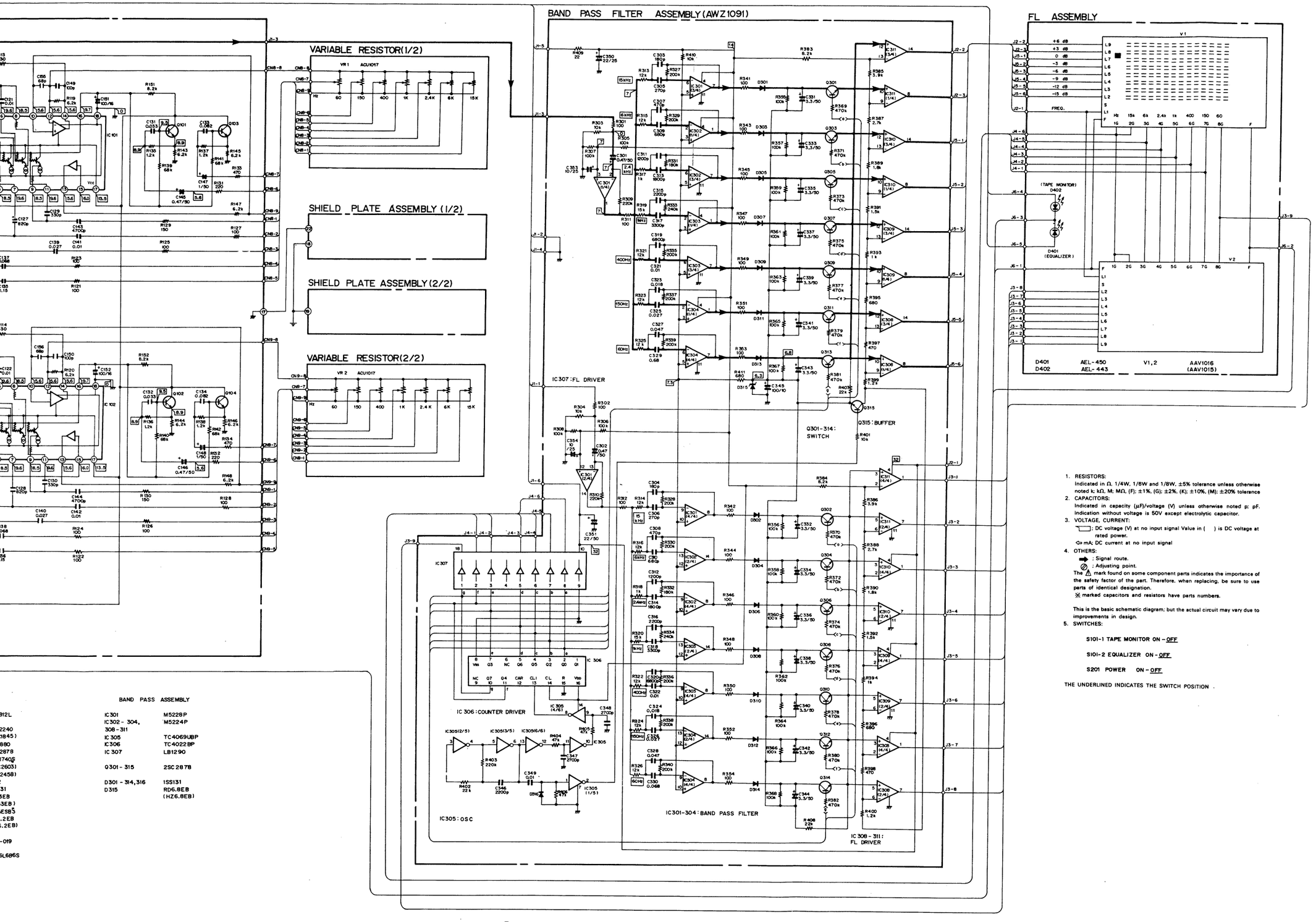


AF ASSEMBLY

IC101, 102	BA3812L
Q101 - 104	2SC2240 (2SC1845)
Q201, 202	2SD880
Q203	2SC2878
Q204	2SC1740S (2SC2603) (2SC2458)
D201 - 205	1IE2
D206, 209, 210	1SS131
D207	RD33EB (HZ33EB)
D208	RD15ESB3
D211	RD6.2EB (HZ6.2EB)
C201, 202, 204	ACG-019
S101	SUL6L686S

BAND PASS ASSEMBLY

IC301	M5228P
IC302 - 304, 308 - 311	M5224P
IC 305	TC4069UBP
IC 306	TC4022BP
IC 307	LB1290
Q301 - 315	2SC2878
D301 - 314, 316 D315	1SS131 RD6.8EB (HZ6.8EB)



	BAND PASS ASSEMBLY	
	IC301	M5228P
	IC302 - 304, 308 - 311	M5224P
	IC305	TC4069UBP
	IC306	TC4022BP
	IC307	LB1290
	Q301 - 315	2SC2878
	D301 - 314, 316	1SS131
	D315	RD6.8EB (HZ6.8EB)

1. RESISTORS:
   Indicated in Ω, 1/4W, 1/8W and 1/8W, ±5% tolerance unless otherwise noted k; kΩ, M; MΩ, (F); ±1%, (G); ±2%, (K); ±10%, (M); ±20% tolerance
2. CAPACITORS:
   Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.
3. VOLTAGE, CURRENT:
   ▭: DC voltage (V) at no input signal Value in ( ) is DC voltage at rated power.
   ⇦ mA; DC current at no input signal
4. OTHERS:
   ➡ : Signal route.
   ⊘ : Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram; but the actual circuit may vary due to improvements in design.
5. SWITCHES:

   S101-1 TAPE MONITOR ON - OFF

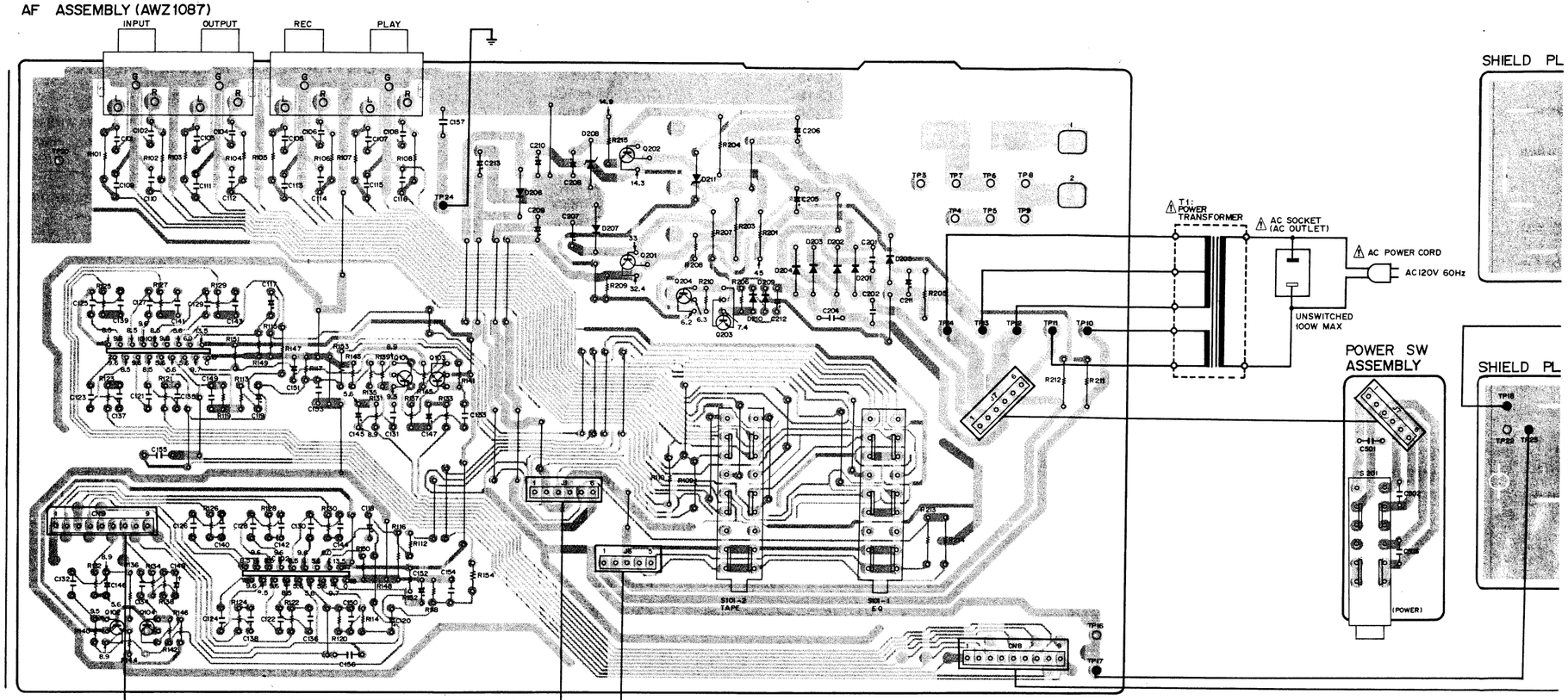
   S101-2 EQUALIZER ON - OFF

   S201 POWER ON - OFF

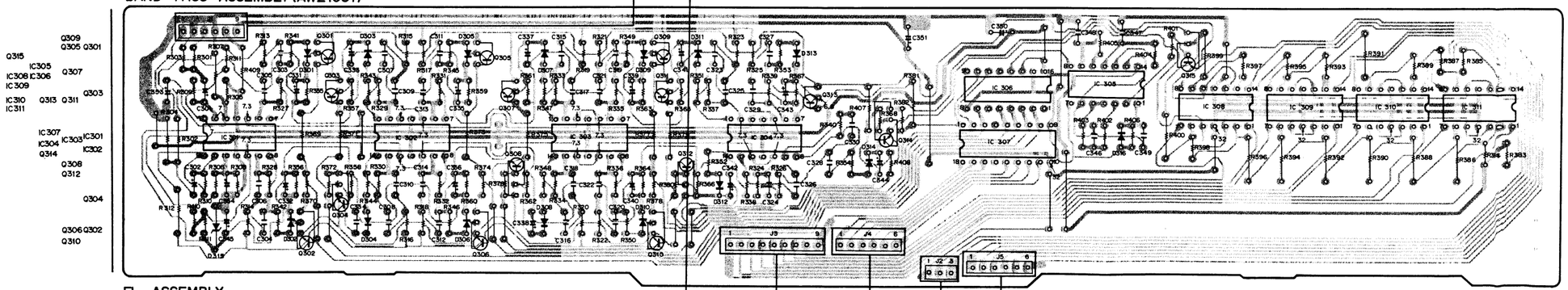
THE UNDERLINED INDICATES THE SWITCH POSITION .

8. P.C. BOARDS CONNECTION DIAGRAM

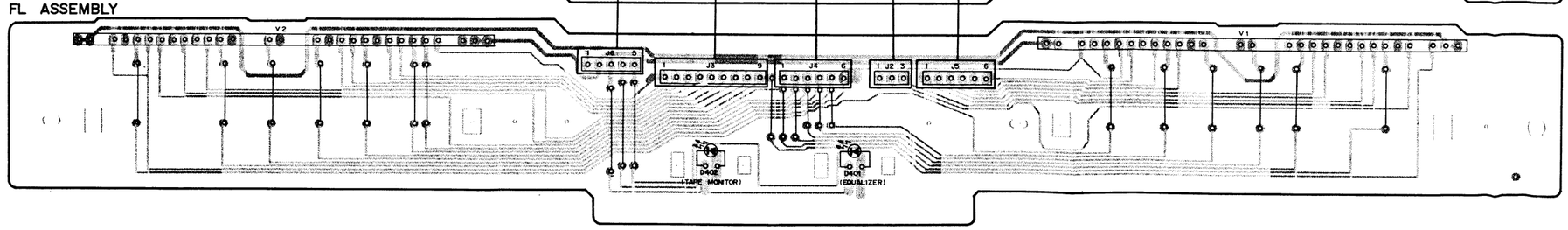
AF ASSEMBLY (AWZ1087)

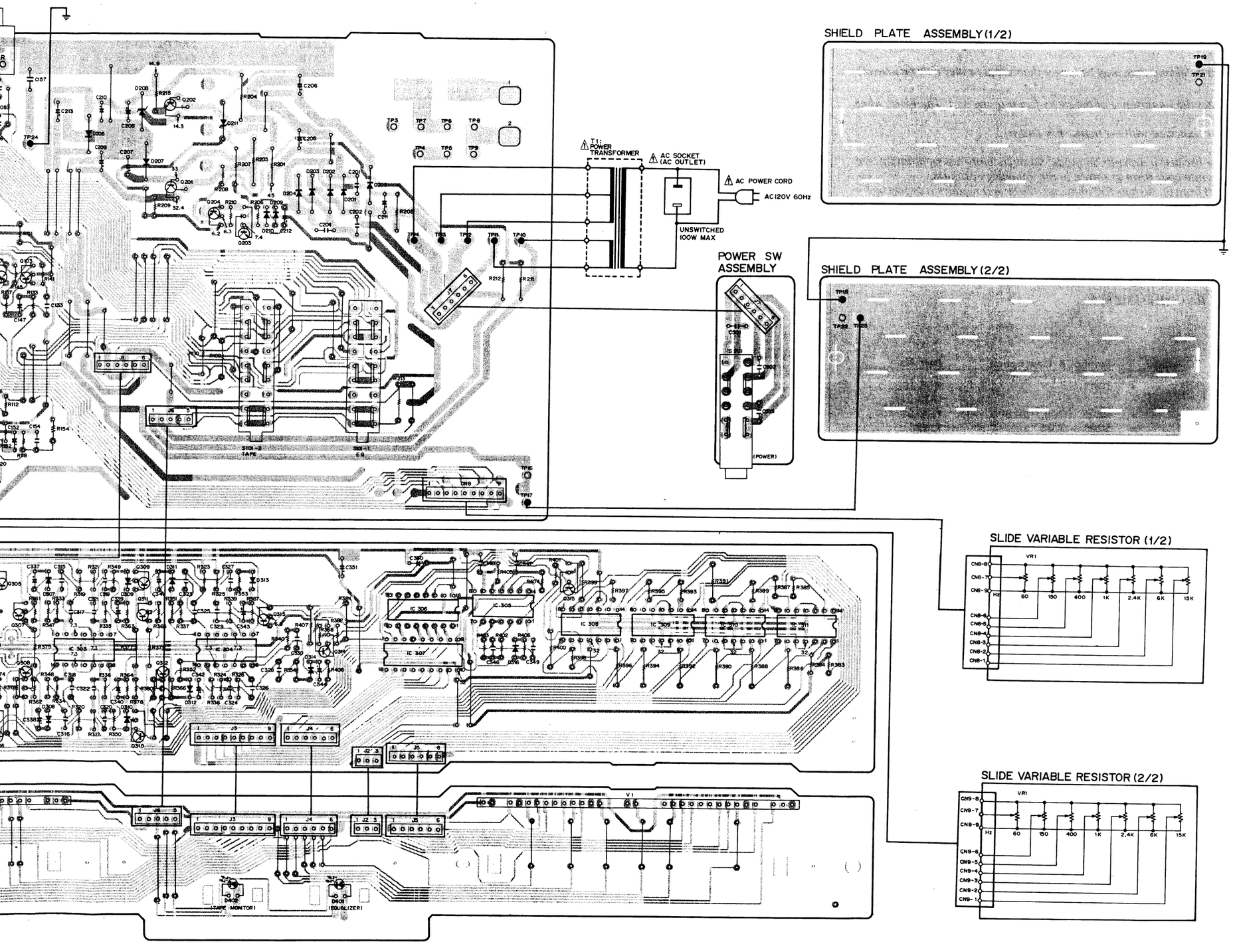


BAND PASS ASSEMBLY (AWZ1091)



FL ASSEMBLY




T1: POWER TRANSFORMER
AC SOCKET (AC OUTLET)
AC POWER CORD
AC120V 60Hz
UNSWITCHED 100W MAX
POWER SW ASSEMBLY
SHIELD PLATE ASSEMBLY(1/2)
SHIELD PLATE ASSEMBLY(2/2)
SLIDE VARIABLE RESISTOR (1/2)
SLIDE VARIABLE RESISTOR (2/2)
VR1
60
150
400
1K
2.4K
6K
15K
Hz
(TAPE MONITOR)
(EQUALIZER)
(POWER)

9. ELECTRICAL PARTS LIST

NOTES:

- *Parts without part number cannot be supplied.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω	*56 × 10¹*	*561*	*RD1/4PS 5 6 1 J*
47kΩ	*47 × 10³*	*473*	*RD1/4PS 4 7 3 J*
0.5Ω	*0R5*		*RN2H 0 R 5 K*
1Ω	*010*		*RS1P 0 1 0 K*

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ	*562 × 10¹*	*5621*	*RN1/4SR 5 6 2 1 F*

Miscellaneous Parts
P.C BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	AF assembly	AWZ1087
	BAND PASS assembly	AWZ1091
	Power SW assembly	
	FL assembly	
	Shield plate assembly (R)	
	Shield plate assembly (L)	

OTHERS

Mark	Symbol & Description	Part No.
★	VR1, VR2, Slide variable resistor (GRAPHIC EQUALIZER)	ACU1017
⚠ ★	T1 Power transformer (AC120V)	ATT1039
⚠	AC Socket (AC OUTLET)	AKP-507
⚠	AC Power cord	ADG-088

AF Assembly (AWZ1087)
SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101, 102	BA3812L
★★	Q204	2SC1740S (2SC2458) (2SC2603)
★★	Q101—Q104	2SC2240 (2SC1845)
★★	Q203	2SC2878
★★	Q201, Q202	2SD880
★	D208	RD15ESB3
★	D207	RD33EB (HZ33EB)
★	D211	RD6.2EB (HZ6.2EB)
★	D206, D209, D210	1SS131
★	D201—D205	11E2

SWITCH

Mark	Symbol & Description	Part No.
★★	S101 (EQUALIZAER, TAPE MONITOR)	SUL6L6B6S

CAPACITORS

Mark	Symbol & Description	Part No.
	C201, C202, C204 (0.01μF)	ACG-019
	C109, C110, C115, C116, C149, C150	CCCSL101J50
	C113, C114, C153, C154	CCCSL221J50
	C145, C146	CEYAR47M50
	C117—C120, C147, C148	CEYA010M50
	C151, C152	CEYA101M16
	C206	CEAS102M35
	C210	CEAS220M16
	C209	CEAS220M50
	C205	CEAS221M63
	C213	CEAS222M16
	C212	CEAS3R3M50
	C211	CEAS4R7M50
	C208	CEAS470M25
	C207	CEAS470M50
	C101—C108, C111, C112, C129, C130	CKCYB331K50
	C127, C128	CKCYB821K50
	C121, C122, C141, C142	CQMA103K50
	C155, C156	CCCSL680J50
	C157	CKCYX473M25
	C135, C136	CQMA154K50
	C125, C126	CQMA182K50
	C139, C140	CQMA273K50
	C131, C132	CQMA333K50
	C123, C124, C143, C144	CQMA472K50
	C137, C138	CQMA683K50
	C133, C134	CQMA823K50

RESISTORS

Mark	Symbol & Description	Part No.
	R205, R207, R211—R215	RD1/4PM□□□J
	R201	RFA1/4PS4R7J
	R203, R204	RS1LMF222J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (4P) (EQUALIZER, TAPE)	AKB-115

POWER SW Assembly
SWITCH

Mark	Symbol & Description	Part No.
★★	S201 Push switch (POWER)	SULLYS

CAPACITORS

Mark	Symbol & Description	Part No.
	C501—C503 (0.01μF)	ACG-019

BAND PASS Assembly (AWZ1091)
SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC307	LB1290
★★	IC302—IC304, IC308—IC311	M5224P
★★	IC301	M5228P
★★	IC306	TC4022BP
★★	IC305	TC4069UBP
★★	Q301—Q315	2SC2878
★	D315	RD6.8EB (HZ6.8EB)
★	D301—D314, D316	1SS131

CAPACITORS

Mark	Symbol & Description	Part No.
	C303, C304	CCCSL181J50
	C305, C306	CCCSL271J50
	C301, C302	CEASR47M50
	C353, C354	CEAS100M25
	C345	CEAS101M10
	C350	CEAS220M25
	C351	CEAS220M50
	C331—C344	CEAS3R3M50
	C349	CKCYB103K50
	C311, C312	CKCYB122K50
	C313, C314	CKCYB182K50
	C315, C316, C346	CKCYB222K50
	C347, C348	CKCYB272K50
	C317, C318	CKCYB332K50
	C307, C308	CKCYB471K50
	C309, C310	CKCYB681K50
	C319, C320	CKCYB682K50
	C321, C322	CKCYX103M25
	C323, C324	CKCYX183M25
	C325, C326	CKCYX273M25
	C327, C328	CKCYX473M25
	C329, C330	CKCYX683M25

RESISTORS

Mark	Symbol & Description	Part No.
	R409	RFA1/4PS220J
	Other resistors	RD1/8PM□□□J

FL Assembly
SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D401 LED (EQUALIZER)	AEL-450
★	D402 LED (TAPE MONITOR)	AEL-443

OTHERS

Mark	Symbol & Description	Part No.
★	V1, V2 Fluorescent tube	AAV1016 (AAV1015)

10. F

10.1 CO

The GR-
exceptio

Mark		
⚠		
⚠		
⚠	★★	F
⚠	★	T
⚠	★	T
⚠	★	T
⚠	★★	S

Mark	Symbol & Description	Part No.
	C135, C136	CQMA154K50
	C125, C126	CQMA182K50
	C139, C140	CQMA273K50
	C131, C132	CQMA333K50
	C123, C124, C143, C144	CQMA472K50
	C137, C138	CQMA683K50
	C133, C134	CQMA823K50

RESISTORS

Mark	Symbol & Description	Part No.
	R205, R207, R211—R215	RD1/4PM□□□J
	R201	RFA1/4PS4R7J
	R203, R204	RS1LMF222J
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (4P) (EQUALIZER, TAPE)	AKB-115

POWER SW Assembly
SWITCH

Mark	Symbol & Description	Part No.
★★	S201 Push switch (POWER)	SULLYS

CAPACITORS

Mark	Symbol & Description	Part No.
	C501—C503 (0.01 μF)	ACG-019

BAND PASS Assembly (AWZ1091)
SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC307	LB1290
★★	IC302—IC304, IC308—IC311	M5224P
★★	IC301	M5228P
★★	IC306	TC4022BP
★★	IC305	TC4069UBP
★★	Q301—Q315	2SC2878
★	D315	RD6.8EB (HZ6.8EB)
★	D301—D314, D316	1SS131

CAPACITORS

Mark	Symbol & Description	Part No.
	C303, C304	CCCSL181J50
	C305, C306	CCCSL271J50
	C301, C302	CEASR47M50
	C353, C354	CEAS100M25
	C345	CEAS101M10
	C350	CEAS220M25
	C351	CEAS220M50
	C331—C344	CEAS3R3M50
	C349	CKCYB103K50
	C311, C312	CKCYB122K50
	C313, C314	CKCYB182K50
	C315, C316, C346	CKCYB222K50
	C347, C348	CKCYB272K50
	C317, C318	CKCYB332K50
	C307, C308	CKCYB471K50
	C309, C310	CKCYB681K50
	C319, C320	CKCYB682K50
	C321, C322	CKCYX103M25
	C323, C324	CKCYX183M25
	C325, C326	CKCYX273M25
	C327, C328	CKCYX473M25
	C329, C330	CKCYX683M25

RESISTORS

Mark	Symbol & Description	Part No.
	R409	RFA1/4PS220J
	Other resistors	RD1/8PM□□□J

FL Assembly
SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★	D401 LED (EQUALIZER)	AEL-450
★	D402 LED (TAPE MONITOR)	AEL-443

OTHERS

Mark	Symbol & Description	Part No.
★	V1, V2 Fluorescent tube	AAV1016 (AAV1015)

10. FOR HB, HEZ, SD AND SD/G TYPES

10.1 CONTRAST OF MISCELLANEOUS PARTS

NOTES:

- *Parts without part number cannot be supplied.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.*
  ★★ GENERALLY MOVES FASTER THAN ★
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

The GR-551/HB, HEZ, SD and SD/G types are the same as the GR-551/KUC type with the exception of the following sections.

Mark	Symbol & Discription	Part No.					Remarks
		KUC type	HB type	HEZ type	SD type	SD/G type	
⚠	AC power cord	ADG-088	ADG-096	ADG1022	ADG1015	ADG1015	
⚠	AC Socket (AC OUTLET)	AKP-507	AKP-509	AKP-508	AKP-507	AKP-507	
⚠ ★★	FU1 Fuse (T2.5A/250V)	.....	AEK-512	AEK-403	.....	.....	
⚠ ★	T1 Power transformer (AC120V)	ATT1039	.....	.....	.....	.....	
⚠ ★	T1 Power transformer (AC220/240V)	.....	ATT1032	ATT1032	.....	.....	
⚠ ★	T1 Power transformer (AC110/120—127/220/240V)	.....	.....	.....	ATT1049	ATT1049	
⚠ ★★	S1 Voltage selector (AC110/120—127/220/240V)	.....	.....	.....	AKX1007	AKX1007	
	Screw	.....	.....	ABA-115	.....	.....	For Terminal
	Screw	.....	.....	.....	VTZ30P100FZK	VTZ30P100FZK	For Voltage Selector
	FL filter	AAK1281	AAK1281	AAK1281	AAK1314	AAK1314	
	Packing case	AHD1234	AHD1234	AHD1234	AHD1234	AHD1280	
	Spacer	.....	.....	.....	.....	AHB1023	
	Operating instructions (English)	ARB1079	ARB1079	.....	ARB1079	ARB1079	
	(English/German/French/Italian)	.....	.....	ARE1050	.....	.....	
	Sub instructions	.....	.....	.....	ARH1041	ARH1041	

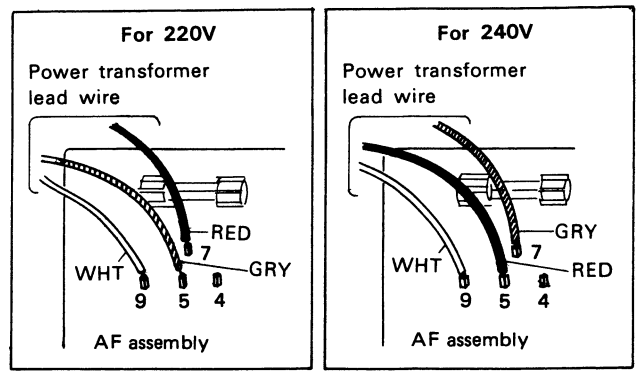
10.2 CHANGE OF LINE VOLTAGE

Line Voltage Selection (For HEZ and HB types)

Line voltage can be changed with following steps.

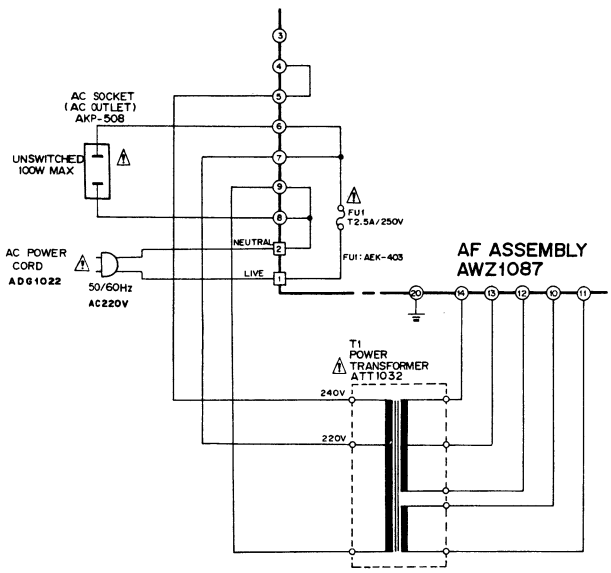
1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX-193	220V label
AAX-192	240V label

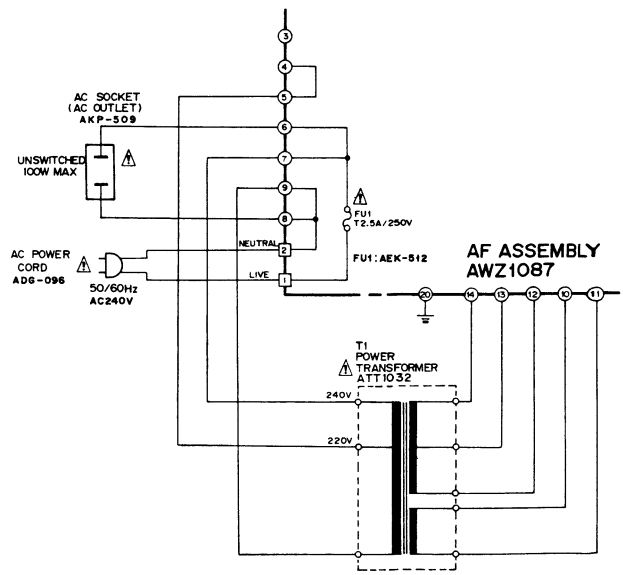


10.3 SCHEMATIC DIAGRAMS OF POWER SECTION

- For HEZ type



- For HB type



- For SD and SD/G types